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EXAMINER	
MOORE, IAN N	
ART UNIT	PAPER NUMBER
2616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/620,053	CAO, YANG	
	Examiner	Art Unit	
	IAN N. MOORE	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-23,25-31,33-38 and 40-42* is/are rejected.

7)☒ Claim(s) *11,24,32 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 1-10-2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 7,266,110 has been reviewed and is accepted. The terminal disclaimer has been recorded.

2. The terminal disclaimer filed on 7-11-2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,865, 179 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 (US005920412A) in view of Chang'757 (US006657757B1).

Regarding Claims 1 and 12, Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

at lease one circuit switch fabric (see FIG. 4, STM (Synchronous Transfer Mode) ADM 28 which switches/routes circuit switch-able synchronous (i.e. real time) data; see col. 9, lines 16-22);

at lease one packet switch fabric (see FIG. 4, ATM (Asynchronous Transfer Mode) ADM 32 which switches/routes cell/packet switch-able asynchronous (i.e. non-real time) data; see col. 9, lines 15-25); and

a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50,52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service type/category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM system or ATM system according to type/category of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52).

Chang'412 does not explicitly disclose IP traffic.

However, it is well known in the art that IP traffic can be transported over STM/SONET/TDM, and IP traffic can also be transported over ATM. Chang'757 teaches routing IP traffic to the circuit switch system (see FIG. 1, SONET (Synchronous Optical Network) system 131, which is also known as Synchronous System) or packet switch system (see FIG. 1, ATM system 131); note that IP traffic/router 112 is coupled to ATM or SONET system 131; see FIG. 1, see col. 9, line 1-5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing IP traffic over ATM/SONET system, as taught by Chang'757 in the system of Chang'412, so that it would combine the advantages of circuit-switching and packet-switching IP technologies; and it will also provide low latency, high

throughput, and cost-effective bandwidth-on demand; see Chang'757 col. 9, line 1920-22; see col. 8, line 35-39.

5. Claims 2, 3,7,13, 14,28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757, and further in view of Dail (US005570355A).

Regarding Claim 28, Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

at lease one circuit switch fabric (see FIG. 4, STM ADM 28; see col. 9, lines 16-22);

at lease one packet switch fabric (see FIG. 4, ATM ADM 32; see col. 9, lines 15-25); and

a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50,52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM or ATM ADMs according to type of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52);

Chang'412 does not explicitly disclose IP traffic. However, it is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (see FIG. 1, see col. 9, line 1-5). Therefore, it would have been obvious to one having ordinary skill in the

art at the time the invention was made to provide routing IP traffic over ATM/SONET system, as taught by Chang'757 in the system of Chang'412, so that it would combine the advantages of circuit-switching and packet-switching IP technologies; and it will also provide low latency, high throughput, and cost-effective bandwidth-on demand; see Chang'757 col. 9, line 1920-22; see col. 8, line 35-39.

Neither Chang'412 nor Chang'757 explicitly disclose allocate switch fabric to traffic falling within an ATM service category; and allocate available switch resources, as indicated by a resource table, to received traffic request.

However, Dail discloses allocate switch fabric to traffic falling within an ATM service category, or provisioning a portion of the switch resources for circuit switch traffic (see FIG. 11, bandwidth controller 435 allocates STM or ATM/CBR calls in 1112; see col. 16, line 35-57; also see FIG. 7); and

allocate available switch resources, as indicated by a resource table, to received traffic request, or allocate the remaining portion of the switch resources to non-STM traffic as a controller route traffic to the switch fabric (see FIG. 11, allocates ATM/VBR calls in 1101 and 1102; see col. 16, line 35-57; also see FIG. 13-14; see col. 17, line 25 to col. 18, line 34; note that buffer maintains table/registers for allocation; also see FIG. 7, dynamic mark between STM and ATM bandwidth).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide allocation circuit switching, as taught by Dail, in the combined system of Chang'412 and Chang'757, so that it would adapt to the changing demands

of a mix of STM and ATM applications, and efficiently allocates bandwidth; see Dail col. 2, line 53-66.

Regarding Claim 33, Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

at lease one circuit switch fabric (see FIG. 4, STM ADM 28; see col. 9, lines 16-22);

at lease one packet switch fabric (see FIG. 4, ATM ADM 32; see col. 9, lines 15-25); and

a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50,52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM or ATM ADMs according to type of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52);

Chang'412 does not explicitly disclose IP traffic. However, it is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (see FIG. 1, see col. 9, line 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing IP traffic over ATM/SONET system, as taught by Chang'757 in the system of Chang'412, so that it would combine the advantages of circuit-switching and packet-switching IP technologies; and it will also provide low latency, high

throughput, and cost-effective bandwidth-on demand; see Chang'757 col. 9, line 1920-22; see col. 8, line 35-39.

Neither Chang'412 nor Chang'757 explicitly disclose allocate switch fabric to traffic falling within an ATM service category; and allocate available switch resources, as indicated by a resource table, to received traffic request.

However, Dail discloses allocate switch fabric to traffic falling within an ATM service category, or provisioning a portion of the switch resources for circuit switch traffic (see FIG. 11, bandwidth controller 435 allocates STM or ATM/CBR calls in 1112; see col. 16, line 35-57; also see FIG. 7); and

allocate available switch resources, as indicated by a resource table, to received traffic request, or allocate the remaining portion of the switch resources to non-STM traffic as a controller route traffic to the switch fabric (see FIG. 11, allocates ATM/VBR calls in 1101 and 1102; see col. 16, line 35-57; also see FIG. 13-14; see col. 17, line 25 to col. 18, line 34; note that buffer maintains table/registers for allocation; also see FIG. 7, dynamic mark between STM and ATM bandwidth).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide allocation circuit switching, as taught by Dail, in the combined system of Chang'412 and Chang'757, so that it would adapt to the changing demands of a mix of STM and ATM applications, and efficiently allocates bandwidth; see Dail col. 2, line 53-66.

Regarding Claim 2, claim 2 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

Regarding Claim 3, claim 3 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

Regarding Claim 7, claim 7 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

Regarding Claim 13, claim 13 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

Regarding Claim 14, claim 14 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

Regarding Claim 18, claim 2 discloses all the limitations of the respective claim 28 and 33 above. Therefore, it is subjected to the same rejections as set forth in claim 28 and 33.

6. Claim 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757 and Dail as applied to claim 2 above, and further in view of Brueckheimer (US006574224B1).

Regarding Claims 4 and 15, the combined system of Chang'412, Chang'757 and Dail discloses routing IP traffic associated with a ATM service category to the circuit switch fabric (see Chang'412 FIG. 5, step 50, 52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412 nor Chang'757 explicitly disclose constant bit rate (CBR). However, CBR is well known in the art for classifying real time application such as voice and video. In particular, Brueckheimer discloses routing traffic associated with a ATM service category to the circuit switch fabric (see FIG. 1, AAL 1 traffic/data in Voice Switch 25; FIG. 14, voice AAL 1 in

AAL/IP interworking module; or FIG. 7, voice AAL 1 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 1 (i.e. CBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 1 to voice switch, as taught by Brueckheimer, in the combined system of Chang'412 and Chang'757, so that it would provide a functional partationining of devices that is an optimal separation of concerns for traffic management, quality of service (QoS) controls, buffer depth scaling and low latency; see Brueckheimer col. 3, line 10-33.

Regarding Claims 5 and 16, the combined system of Chang'412 and Chang'757 discloses routing IP traffic associated with a real time ATM service category to the circuit switch fabric (see Chang'412 FIG. 5, step 50, 52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412 nor Chang'757 explicitly disclose variable bit rate (VBR). However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the circuit switch fabric (see FIG. 1, AAL 2 traffic/data in Voice Switch 25; FIG. 14, voice AAL 2 in AAL/IP interworking module; or FIG. 7, voice AAL 2 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 2 (i.e. real time VBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 2 to voice switch, as taught by Brueckheimer,

in the combined system of Chang'412 and Chang'757, for the as motivation as stated above in claim 4.

Regarding Claim 6 and 17, the combined system of Chang'412 and Chang'757 discloses routing IP traffic associated with a non-real time ATM service category to the packet switch fabric (see Chang'412 FIG. 5, step 50, 52 and 56; routing to ATM ADM according to ATM non-real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412 nor Chang'757 explicitly disclose traffic not associated with CBR or rt-VBR ATM.

However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the packet switch fabric (see FIG. 1, AAL 5 traffic/data in Data/Packet Switch 26; FIG. 14, AAL 5 in AAL/IP interworking module; or FIG. 7, AAL 5 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 5 (i.e. neither CBR nor real time VBR category) and routed toward the data switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 5 to packet switch, as taught by Brueckheimer, in the combined system of Chang'412 and Chang'757, for the as motivation as stated above in claim 4.

7. Claims 8, 19, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757 and Dail, as applied to claims 3, 13, 28, and 33 above, and further in view of Caldara (U.S. 5,982,771).

Regarding claims 8, 19, 29 and 34, the combined system of Chang'412, Chang'757 and Dail discloses the controller maintain a circuit switch resource table as described above in claims 3, 13, 28, and 33.

Neither Chang'412, Chang'757 nor Dail explicitly discloses egress resource table.

However, the above-mentioned claimed limitations are taught by Caldara'771. In particular, Caldara'771 teaches controller (see FIG. 1, Bandwidth Arbiter 12) maintains switch ingress (see FIG. 1, a combined system of memory/RAM/resource table 21,20,23 in Input port 14) and egress resource table (see FIG. 1, a combined system of memory/RAM/resource table 48,42,44,46 in Output port 16); see col. 5, lines 10 to col. 6, lines 35).

In view of this, having the combined system of Chang'412, Chang'757 and Dail, then given the teaching of Caldara, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Chang'412, Chang'757 and Dail, by providing output memory resource table in order to control bandwidth allocation, as taught by Caldara. The motivation to combine is to obtain the advantages/benefits taught by Caldara since Caldara states at col. 1, line 50 to col. 4, lines 25 that such modification would efficiently allocates the available bandwidth while assuring that minimum bandwidth and delay requirement of connects are satisfied.

Regarding Claim 19, claim 19 discloses all the limitations of the respective claim 8 above. Therefore, it is subjected to the same rejections as set forth in claim 8.

Regarding Claim 29, claim 29 discloses all the limitations of the respective claim 8 above. Therefore, it is subjected to the same rejections as set forth in claim 8.

Regarding Claim 34, claim 34 discloses all the limitations of the respective claim 8 above. Therefore, it is subjected to the same rejections as set forth in claim 8.

8. Claims 9, 20-22, 25-27, 30, 35-37 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412, Chang'757 and Dail, as applied to claims 3, 13, 28, and 33 above, and further in view of Houji (U.S. 5,832,197).

Regarding claim 9, the combined system of Chang'412, Chang'757 and Dail discloses all aspects of the claimed invention set forth in the rejection of claim 3 as described above.

Neither Chang'412, Chang'757 nor Dail explicitly discloses pass an traffic request to a destination node and to establish an traffic path after having determined that all nodes along the proposed path have accepted/allocated an traffic request.

However, the above-mentioned claimed limitations are taught by Houji'197. In particular, Houji'197 teaches pass an traffic request (see FIG. 1, Node N1; also see FIG. 2, step 20, connection request process and pass by Node N1) to a destination node (see FIG. 1, destination Node N5; see FIG. 2, to destination node, step 23) and to establish an traffic path (see FIG. 1, a path between N1 and N5; see FIG. 2, establishing the path, step 23-26) after having determined that all nodes (see FIG. 1, Nodes N2-N4, N7) along the proposed path (see FIG. 1, the lowest QoS path between N1 and N5; see FIG. 2, step 21) have accepted an traffic request (see FIG. 2, steps 23-26; accept request); see col. 2, lines 45 to col. 3, lines 27).

In view of this, having the combined system of Chang'412, Chang'757 and Dail, then given the teaching of Houji'197, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Chang'412, Chang'757 and Dail, by providing establishing end-to-end path between source and destination node upon accepting the connection request by the nodes along the path, as taught by Houji'197. The motivation to combine is to obtain the advantages/benefits taught by Houji'197 since a2 states at col. 1, line 30 to col. 2, lines 2315 that such modification would provide an alternate routing in a connection-oriented network in which a plurality of nodes are interconnected by the communication links.

Regarding Claim 20, claim 20 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 21, claim 21 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 22, claim 22 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 25, claim 25 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 26, claim 26 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 27, claim 27 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 30, claim 30 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 35, claim 35 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 36, claim 36 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 37, claim 37 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 40, claim 40 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 41, claim 41 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

Regarding Claim 42, claim 42 discloses all the limitations of the respective claim 9 above. Therefore, it is subjected to the same rejections as set forth in claim 9.

1. Claims 10, 23, 31, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412, Chang'757, Dail, Houji, as applied to claims 3, 13, 28, and 33 above, and further in view of Brueckheimer.

Regarding Claim 10, the combined system of Chang'412, Chang'757, Dail and Houji discloses IP switch fabric, wherein the IP switch fabric is one kind of packet switched fabric, and routing IP traffic associated with a real time ATM service category to the circuit switch fabric

(see Chang'412 FIG. 5, step 50,52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412, Chang'757, Dail nor Houji explicitly disclose variable bit rate (VBR).

However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the circuit switch fabric (see FIG. 1, AAL 2 traffic/data in Voice Switch 25; FIG. 14, voice AAL 2 in AAL/IP interworking module; or FIG. 7, voice AAL 2 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 2 (i.e. real time VBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 2 to voice switch, as taught by Brueckheimer, in the combined system of Chang'412, Chang'757, Dail and Houji, for the as motivation as stated above in claim 4.

Regarding Claim 23, claim 23 discloses all the limitations of the respective claim 10 above. Therefore, it is subjected to the same rejections as set forth in claim 10.

Regarding Claim 31, claim 37 discloses all the limitations of the respective claim 10 above. Therefore, it is subjected to the same rejections as set forth in claim 10.

Regarding Claim 38, claim 38 discloses all the limitations of the respective claim 10 above. Therefore, it is subjected to the same rejections as set forth in claim 10.

Allowable Subject Matter

2. **Claims 11, 24, 32 and 39** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

3. Applicant's arguments filed 2-8-08 have been fully considered but they are not persuasive.

Regarding claims 1-10, 12-23,25-31,33-38 and 40-42, applicant argues that "…Chang'412 fails to teach or suggest: (i) the routing of IP traffic of IP traffic based on a ATM service category; (ii) at least one circuit switch and packet switch fabric making up a (iii) hybrid telecommunication switch… "Type check 24" disclosed in Chang'412…without taking into consideration the ATM service level of any of the traffic…Chang'412 does not include the routing of IP traffic based on an ATM service category as recited in claims…" in pages 13-14.

In response to applicant's argument, t**he examiner respectfully disagrees** with the argument above.

1) The rejection is based upon a combined system of Chang'412 (US005920412A) and Chang'757 (US006657757B1). One must consider the combined system of Chang'412 and Chang'757 as a whole, rather than individually as incorrectly stated by applicant above. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

2) Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

at lease one circuit switch fabric (see FIG. 4, STM (Synchronous Transfer Mode) ADM 28 which switches/routes circuit switch-able synchronous (i.e. real time) data; see col. 9, lines 16-22);

at lease one packet switch fabric (see FIG. 4, ATM (Asynchronous Transfer Mode) ADM 32 which switches/routes cell/packet switch-able asynchronous (i.e. non-real time) data; see col. 9, lines 15-25); and

a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50,52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service type/category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM system or ATM system according to type/category of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52).

It is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (**see FIG. 1, see col. 9, line 1-5**). Thus, it is clear that the combined system of Chang'412 and Chang'757 discloses the claimed invention.

3) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **what are**

ATM service category of the IP traffic, or what constitute ATM service category of the IP traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant does not specifically claimed (in claim 1, 12, 28 and 33) what are "**ATM service category of the IP traffic**", or what constitute "**ATM service category of the IP traffic**".

4) Regarding applicant's argument on type check 24, Chang'412 discloses as follows:

The general function of type check 24 is to categorize the demultiplexed signals as non-local signals or as local signals, and then **to categorize the local signals as either synchronous transfer mode (STM) signals or as asynchronous transfer mode (ATM) signals**. "Non-local signals" are signals that are not destined for a local switch associated with optical network routing agent 14d such as an associated ATM switch 10 or an STM switch 20. "Local signals" are signals that are destined for a local switch. Type check 24 categorizes the demultiplexed signals based on the wavelength associated with each group of the demultiplexed signals. (Emphasis added) see col. 12, line 10-36

If type check 24 categorizes a group of signals as local signals, then type check 24 transmits the local signals to a local switch such as associated ATM switch 10 or STM switch 20. From the local switch, the signals are further routed to their respective destinations. In the preferred embodiment, **type check 24 further reviews local signals to determine whether the local signals are STM signals or are ATM signals.** As with the local/non-local categorization, the categorization of the local signals as STM or ATM signals is based on the wavelength of the optical carrier associated with the signals. As also with the local/non-local categorization, type check 24 may "know" that a particular group of signals comprise ATM or STM signals based on the port on which these signals were received. (Emphasis added) see col. 13, line 41-50

Thus, in view of the above Chang'412's type check 24 is configured to route/direct traffic to STM (i.e. circuit switch fabric) or ATM (i.e. packet switch fabric) depending on ATM service category/type of traffic.

Moreover, Chang'412 FIG. 5, step 50 clearly shows determining whether to route the traffic to ATM or STM. Examiner asserts "ATM service categories", in accordance with well

establish teaching in art, as "real time signal" and "non-real time signal" services categories (see cited reference below). It is also well establish teaching in art that STM (Synchronous Transfer Mode) or TDM (Time Division Multiplexing) switching primarily switches the real time signal, and ATM (Asynchronous Transfer Mode) switching primarily switches the non-real time signals (see cited reference below). Thus, when determining whether to switch to ATM or STM, it is actually determining signals whether they are real time or non-real time signal, and routing the signal to either STM or ATM accordingly.

The following prior art references disclose STM and ATM and their corresponding "ATM service category", and routing signal to either STM or ATM accordingly.

Dial (US005570355A)- STM traffic is real-time traffic (e.g. voice, narrow band ISDN, or video), and ATM traffic is non-real time traffic (e.g. delay sensitive VBR); see FIG. 11, see col. 7, line 40-65; see col. 16, line 34-57.

Hluchyj (US006381238B1)- signal processing servers 2 switching ATM traffic (which has service categories, e.g. CBR, VBR, rt-VBR, nrt-VBR) to circuit switch fabric 26 or packet switch fabric 23. See col. 1, line 10 to col. 2, line 11.

Afanador (US006317426B1)- STM protocol, a given user receives time slices, which are at predetermined period time (i.e. real time). In contrast, under ATM protocol, a given user receives time slices at non-periodic times, which may be variable or random (i.e. non-real time); see col. 3, line 25-36.

Regarding claims 1-10, 12-23, 25-31, 33-38 and 40-42, The applicant argued that, "…ONRA is a router, not a switch…Chang'412 does not disclose a hybrid telecommunications switch as recited in the claims…" in page 15-16.

In response to applicant's argument, t**he examiner respectfully disagrees** with the argument above.

1) Examiner finds no difference between applicant's **hybrid communication switch** and Chang'412's **ONRA router** since ONRA has **an identical capability and functionality** of switching or routing traffic between two fiber connections 16d and 16c (see Chang'412 FIG. 2 and 4). Chang'412 discloses a router/switch that is capable of switching/routing both STM traffic and ATM traffic, and thus it is hybrid STM-ATM communication router/switch. It is clear from the argument that applicant is arguing the broad "word" (i.e. switch vs. router) while totally ignoring the identical functionality and capability associated with the word.

2) Moreover, examiner does not even require to give ***a hybrid telecommunications switch*** patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 1-10, 12-23, 25-31, 33-38 and 40-42, the applicant argued that**,** "…Examiner appears to equate the STM and STM add/drop multiplexers (ADMs) 28 and 32 of Chang'412 with the claimed circuit switch and packet switch fabrics. This too is inaccurate. An ADM is not a switch…" in page 16.

In response to applicant's argument, t**he examiner respectfully disagrees** with the argument above.

"Switch fabric" is a broad term that covers everything that performs switching/routing. In this case, STM (Synchronous Transfer Mode) ADM 28 is performing switching/routing of circuit/synchronously switch traffic, and thus examiner equates Chang'412 STM ADM as applicant's "circuit switch fabric". Likewise, ATM (Asynchrous Transfer Mode) ADM 32 is performing switching/routing of packet/cell/asynchronously switch traffic, and thus examiner equates ATM ADM as applicant's "packet switch fabric". Chang'412's STM ADM 28 switches signals/traffic 27 (Input) and signals/traffic 29 (output) (see FIG. 4) and ATM ADM 32 is also switches signals/traffic 31 (input) and signals/traffic 33 (output).

Thus, Examiner finds no difference between applicant's **switching fabrics** and Chang'412's ADMs since ADM has **an identical capability and functionality** of switching or routing traffic between input and output signals. It is clear from the argument that applicant is arguing the broad "word" (i.e. switch vs. ADM) while totally ignoring the identical functionality and capability associated with the word.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN N. MOORE whose telephone number is (571)272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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2-25-08